



ANALYSIS OF BROWNFIELD CLEANUP ALTERNATIVES

USEPA Brownfield Cleanup Revolving Loan Fund
Cooperative Agreement BF-00E00793
Tech Mobility Club Project
10001 Petoskey Avenue, Detroit, Michigan

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and

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PROJECT # 20643F2

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Tech Mobility Club Project
10001 Petoskey Avenue, Detroit, Michigan
AKT Peerless Project No.: 20643F2

1.0 Introduction

This Analysis of Brownfield Cleanup Alternatives (ABCA) was prepared by AKT Peerless for the Detroit-Wayne County Port Authority (DWCPA) and the Boys & Girls Clubs of Greater Detroit. The ABCA is a required element of the Brownfield Cleanup Revolving Loan Fund (RLF) Grant awarded to the DWCPA by the United States Environmental Protection Agency (USEPA). Environmental cleanup activities conducted at the subject property will be funded under the USEPA RLF program.

In preparing this ABCA, AKT Peerless (Qualified Environmental Professional), Boys & Girls Clubs of Greater Detroit (property owner and RLF subgrantee) and DWCPA (RLF grantee) considered environmental factors, various subject property characteristics, surrounding property use, land use restrictions, potential future uses of the subject property and surrounding area, and applicable cleanup goals for the Project.

This ABCA provides a comparative analysis of the cleanup alternatives being considered using the criteria of effectiveness, ability to implement, and the cost of each alternative. This ABCA recommends the most appropriate cleanup alternative and enables the redevelopment of the subject property for commercial use which is a direct benefit to the public.

2.0 Background

2.1 Subject Property Description

The Property is located at 10001 Petoskey Avenue in Detroit, Wayne County, Michigan (**Figure 1**). The site consists of one parcel of land comprising approximately 2.65 acres. It is improved with one-story, 64,500-square foot, auxiliary education building originally constructed in 1967 (with renovations completed in circa 1987). Prior to the current development, subject property was undeveloped, vacant and residential land. The Property boundaries and features are shown on **Figure 2**.

2.2 Subject Property History

The subject property was historically undeveloped through the early 1950s, with an apparent residential dwelling located on the southern portion of the property from at least 1905 to 1934 before the site became vacant. By 1952, the northern portion of the subject property was incorporated into the McCabe Playfield. The northeast building was constructed in 1953 and identified on the 1956 Historical Sanborn Map as the "Catholic Youth Organization Homes for Boys." Between 1956 and 1966, the subject property was developed with the northeast building and associated athletic fields. A second building was constructed on the northwest portion of the subject property in 1967, while the northern parking area and drive initially appeared unpaved. From 1968 through 1996, the subject property remained developed

with the northwest and northeast buildings, associated parking areas, athletic fields, and landscaped open space. Since 1997, the subject property has been developed with the existing northwest and northeast buildings, an athletic field in the southeast, a central gazebo, paved parking areas and drives, and landscaped grass areas.

2.3 Previous Environmental Investigations

Previous environmental assessments have been completed for the subject property. The following is a summary of the environmental investigations that are relevant to the redevelopment project and proposed remedial activities.

In April 2025, Atlas Technical Consultants LLC conducted a Phase I ESA of the subject property. The assessment has revealed the following recognized environmental condition (REC) in connection with the subject property:

REC 1 - The subject property was first developed with the former dormitory/religious structure constructed in 1953 and an auxiliary/multi-use building constructed in 1967 (subject property building). Recent permit records indicate the former dormitory/religious structure was demolished circa 2024. City of Detroit records identified a “12,000-gallon UG tank” associated with the subject property in 1953 (likely in conjunction with the construction/use of the former dormitory/religious structure). Information to identify the location, use, installation, and/or removal was not provided on available City of Detroit records cards, listed in regulatory databases or from local and state record requests was not available. The lack of records to confirm the removal of the tank and lack of laboratory data to demonstrate the conditions of the surrounding soils represent a REC.

In August 2025, Atlas conducted a Limited Ground Penetrating Radar (GPR) survey to determine if a 12,000-gallon underground storage tank (UST) was present as documented in records obtained from the City of Detroit during the Phase I ESA. The GPR survey identified one anomalous area consistent with the presence of a UST located approximately 90 feet south of the sidewalk along Collingwood Street, and approximately 20 feet west of the sidewalk along Petoskey Avenue. The suspect UST was determined to be approximately 28 feet long and 10 feet wide, with the top of the tank approximately three feet below grade surface (bgs). The GPR survey also identified potential piping associated with the UST on the western side of the UST that extended 10 feet from the tank towards the former building footprint.

In March 2026, AKT Peerless conducted a subsurface investigation of the subject property that included: (1) a test excavation to determine if an abandoned UST is present at the subject property; (2) the advancement of four soil borings; and (3) the collection of one sample of the UST liquid, one waste characterization soil sample, and eight soil samples. The UST liquid sample was submitted for laboratory analysis of fingerprint and polychlorinated biphenyls (PCBs). The waste characterization soil sample was submitted for laboratory analysis of Toxicity Leachate Characteristic Procedure (TCLP) Volatile Organic Compounds (VOCs), TCLP semi-VOCs, TCLP Resource Conservation and Recovery Act (RCRA) 8 Metals, and reactivity, corrosivity, and ignitability. The soil samples were submitted for laboratory analyses of VOCs, polynuclear aromatic compounds (PNAs), and/or PCBs. The results of the investigation indicated the following:

- The test excavation revealed one approximately 12,000-gallon abandoned heating oil UST.
- The UST liquid sample did not contain PCBs and appears to be Fuel Oil #4.
- The waste characterization soil sample indicates that the soil is “non-hazardous.”

- VOCs and PNAs were detected in soil above the EGLE Part 201 Groundwater Surface Water Interface Protection (GSIP) and/or Residential Volatilization to Indoor Air Pathway Screening Levels (VIAP SLs).

Refer to **Figure 3** for a Site Map with Soil Analytical Results exceeding EGLE Part 201 Residential Cleanup Criteria (RCC).

2.4 Current Environmental Concerns

Based on the results of the environmental assessments completed for the property, the presence of contaminants of concern that exceed the applicable Part 201 criteria present the following exposure pathways are complete or likely to become complete based on the proposed use of the subject property:

- Soil Volatilization to Indoor Air

Therefore, environmental cleanup and response activities will be necessary to abate, prevent, minimize, mitigate or eliminate these pathways during development.

3.0 Proposed Cleanup Objectives

The Boys & Girls Clubs of Greater Detroit intends to renovate a one-story, 64,500-square-foot education building into a state-of-the-art Tech Mobility Hub, designed to immerse young people in the rapidly growing fields of advanced mobility, automotive technology, and related STEM career pathways. The Tech Mobility Hub directly advances the economic, educational, and community priorities by transforming a vacant, underutilized property into a vibrant, youth-centered innovation space, that will help prepare young people, particularly those from historically underserved neighborhoods—for the future of work in mobility, technology, and advanced manufacturing fields.

As part of the proposed redevelopment of the eligible property, the developer intends to remove the existing 12,000-gallon UST containing No.4 fuel oil. The UST will be cleaned, rendered inert, and removed under the oversight of environmental consultant and a qualified UST removal contractor. Up to 50 tons of impacted soil will be excavated, characterized as necessary, and transported to a licensed disposal facility. Following completion of excavation, the affected area will be backfilled with Class II sand and compacted to restore site conditions and facilitate the proposed redevelopment. RLF specific activities to accomplish brownfield redevelopment for this project may include:

- Removal and disposal of the existing 12,000-gallon UST
- Soil excavation, transportation, and disposal
- Backfilling activities
- Oversight and monitoring during eligible activities
- Sampling and reporting to verify and document achievement of cleanup goals and objectives
- Final reporting
- Other eligible cleanup activities, as necessary to accomplish brownfield redevelopment goals

3.1 Applicable Regulations and Cleanup Standards

Laws and regulations that are applicable to this cleanup include the Federal Small Business Liability Relief and Brownfields Revitalization Act, the Brownfields Utilization, Investment, and Local Development (BUILD) Act. Federal, state, and local laws regarding procurement of contractors to conduct the cleanup

will be followed. As described herein, all cleanup will be in accordance with the State of Michigan regulations. All applicable permits and documentation will be obtained prior to the work commencing, and all work will be conducted in accordance with the conditions for approval.

Remediation activities will be undertaken in a manner compliant with protocols established by EGLE pursuant to Part 201 of NREPA, federal Occupational Safety and Health Administration (OSHA), and/or Michigan Occupational Safety and Health Administration (MIOSHA), as applicable. An environmental professional will oversee remediation activities and will include reporting to the EGLE upon completion, as necessary.

3.2 Cleanup Alternatives

To verify that the use of the USEPA RLF for the Project is appropriate and warranted, Boys and Girls Clubs of Greater Detroit, DWCPA, and AKT Peerless conducted an evaluation of the proposed development activities to ensure that they are the best and appropriate environmental activities based on a combination of efficacy, implementation, and cost.

Remedial alternatives included in this portion of the ABCA were developed based on the nature and extent of contamination, planned development activities and schedule, and technological feasibility.

3.2.1 Alternative #1 – No Action

The “no action” cleanup alternative is included in the evaluation as a standard to compare other remedial action in order to compare and contrast any significant reduction in risk, as necessary. For the “no action” alternative, no action to remediate the issues identified at the subject property would remain in place. This alternative does not include a means to mitigate or eliminate potential exposure both during and following redevelopment and does not meet the objectives of the project.

Effectiveness

This alternative is not effective in controlling the release of contaminants or achieving project goals. The UST and subsequent soil contamination will remain in the ground and potentially cause issues related to the development activities as well as present a vapor intrusion concern.

Ability to Implement

This option would be the simplest to implement since no activities will be conducted.

Cost

No direct costs are associated with this alternative; however, due care responsibilities would not be addressed and may result in additional management costs during development and future use.

3.2.2 Alternative #2 – UST Closure in Place

Alternative #2 involves removing the tank contents, cleaning the tank, and filling it with an inert flowable fill, allowing the UST to remain in place. This approach eliminates the potential for a future release from the UST; however, it does not address any potentially contaminated soil surrounding the tank. As a result, additional evaluation, and/or engineering controls would be required to mitigate applicable exposure pathways. These engineering controls may include the installation of an active sub-slab depressurization (ASSD) system to address potential vapor intrusion concerns. Such a system would require ongoing operation and maintenance as part of a long-term operations and maintenance (O&M) program.

Effectiveness

This alternative effectively eliminates the potential for a future release from the UST; however, it does not address the contaminated soil surrounding the tank. As a result, potential risks to human health, and the environment would remain and would need to be managed through the implementation of engineering controls. These controls, which could include an ASSD system, would require long-term operation and maintenance to support the future development of the subject property.

While this alternative reduces the risk of a future release from the UST, it does not remediate the existing environmental impacts or adequately reduce risks to site workers, future occupants, or the surrounding community. In addition, it does not improve the overall environmental condition of the property. Accordingly, this alternative is not considered an effective remedial option for this project.

Ability to Implement

The removal of the tank contents, cleaning of the tank, and filling the UST with inert flowable fill are routine activities that can be readily implemented. The site is accessible to the required equipment and field personnel, and licensed disposal facilities are available within a reasonable distance to accept the waste generated during tank cleaning and contents removal. Additional health and safety measures would be required to address potential exposures associated with waste management, environmental monitoring, and construction activities.

Cost

The cost of implementing a comprehensive cleanup approach would be financially feasible, however it does adequately mitigate the complete exposure pathways (i.e., soil volatilization to indoor air) and would require additional engineering controls to eliminate the applicable pathways which would add significant costs to the project.

3.2.3 Alternative #3 – UST Removal and Cleanup to Achieve Compliance with Part 201 Criteria

This alternative involves the complete removal of the existing 12,000-gallon UST, including the removal of the tank contents, cleaning of the tank, and excavation of the UST under the oversight of an environmental consultant and a qualified UST removal contractor. Up to 50 tons of impacted soil will be excavated, characterized as necessary, and transported to a licensed disposal facility for off-site disposal. Upon completion of the excavation, verification of soil removal (VSR) samples will be collected from the excavation floor and sidewalls to document the removal of contaminated soils. The excavation area will be backfilled with clean Class II sand and compacted to support the proposed redevelopment.

This alternative would facilitate the unrestricted use of the property by eliminating potential exposure risks to human health and the environment associated with contaminated soil and address the completed exposure pathway (soil volatilization to indoor air). In addition, removal of the UST and impacted soil would eliminate the need for long-term engineering controls, such as an ASSD, and the associated operation, maintenance, and monitoring requirements.

Effectiveness

Removal of the UST and excavation of the associated contaminated soil to support redevelopment of the subject property is protective of public health, site workers, the surrounding community, and the environment. This alternative would improve the overall environmental quality of the property by eliminating the potential for a future release from the UST, removing the source of contamination, and

mitigating exposure pathways associated with the groundwater–surface water interface and soil vapor intrusion into indoor air. As a result, this alternative represents an effective remedial option for the project.

Potential drawbacks of this alternative include temporary worker health and safety risks during excavation and tank removal, increased truck traffic and associated off-site safety concerns related to the transportation of waste materials, and the use of licensed landfill capacity for disposal of contaminated soil and tank wastes.

Ability to Implement

The emptying, cleaning, and removal of the UST, along with the excavation, transportation, and disposal of contaminated soil, are routine activities that can be readily implemented. Based on the results of previous site investigations, the excavated soil is classified as non-hazardous waste. The site is readily accessible to the required equipment and field personnel, and licensed disposal facilities are available within a reasonable distance to accept the contaminated soil and other waste materials generated during UST removal.

Additional health and safety measures will be required to manage potential worker exposure to contaminated soil and groundwater during excavation, environmental monitoring, and construction activities. Open excavations will also need to be properly maintained and secured to protect adjacent areas and prevent unauthorized access. Clean backfill material is readily available; and will be sampled and verified to be free of contamination prior to delivery and placement at the site.

Removal of the UST, its contents, and the associated contaminated soil would facilitate the proposed redevelopment of the subject property. This alternative would be protective of public health, site workers, the surrounding community, and the environment by eliminating the source of contamination and mitigating the complete exposure pathway, soil volatilization to indoor air. In addition, the removal of contaminated media would improve the overall environmental quality of the subject property and support its unrestricted future use.

Cost

The costs to empty, clean, and remove the UST, in addition to the loading, transport and disposal of the contaminated soil (estimated at 50 tons), backfilling activities, and providing all requisite management, sampling, and monitoring, are estimated to be \$50,000.

4.0 Recommended Cleanup Alternatives

Alternative #3, UST Removal and Cleanup to Achieve Compliance with Section 20107(a), is recommended. Alternatives were evaluated based on effectiveness, ability to implement, cost, and the proposed redevelopment of the subject property. The results of the analyses of each of these factors for each option were evaluated as a whole and between options to arrive at the recommendation presented below.

The “no action” alternative was included in this ABCA for comparative purposes only and is not a feasible option for the management of the existing UST and subsequent soil contamination at the subject property, nor does it address concerns to human health, safety, welfare and the environment. Further, the proposed redevelopment of the property cannot be completed without remediation measures. Consequently, the “no action” option was eliminated from further discussion.

Although Alternative #2 would eliminate the potential for future releases from the UST, it is not considered a feasible remedial option because it does not address the contaminated soil surrounding the tank. As a result, additional evaluation and/or engineering controls would be required to achieve compliance with Section 20107(a). The implementation of these controls, together with the associated long-term operation, maintenance, and monitoring requirements, would significantly increase the overall project costs, making the remedial approach economically impractical and jeopardizing the financial feasibility of the proposed redevelopment.

Therefore, Alternative #3, the UST Removal and Cleanup to Achieve Compliance with Section 20107(a) is recommended for implementation at the subject property. This cost-effective approach will: (1) eliminate the threat of a future release from the UST, (2) eliminate the threat to human health and the environment, and (3) support future development of the subject property. This alternative is the most effective option for this project.

5.0 Signatures of Environmental Professionals

This ABCA was prepared by the following individuals:



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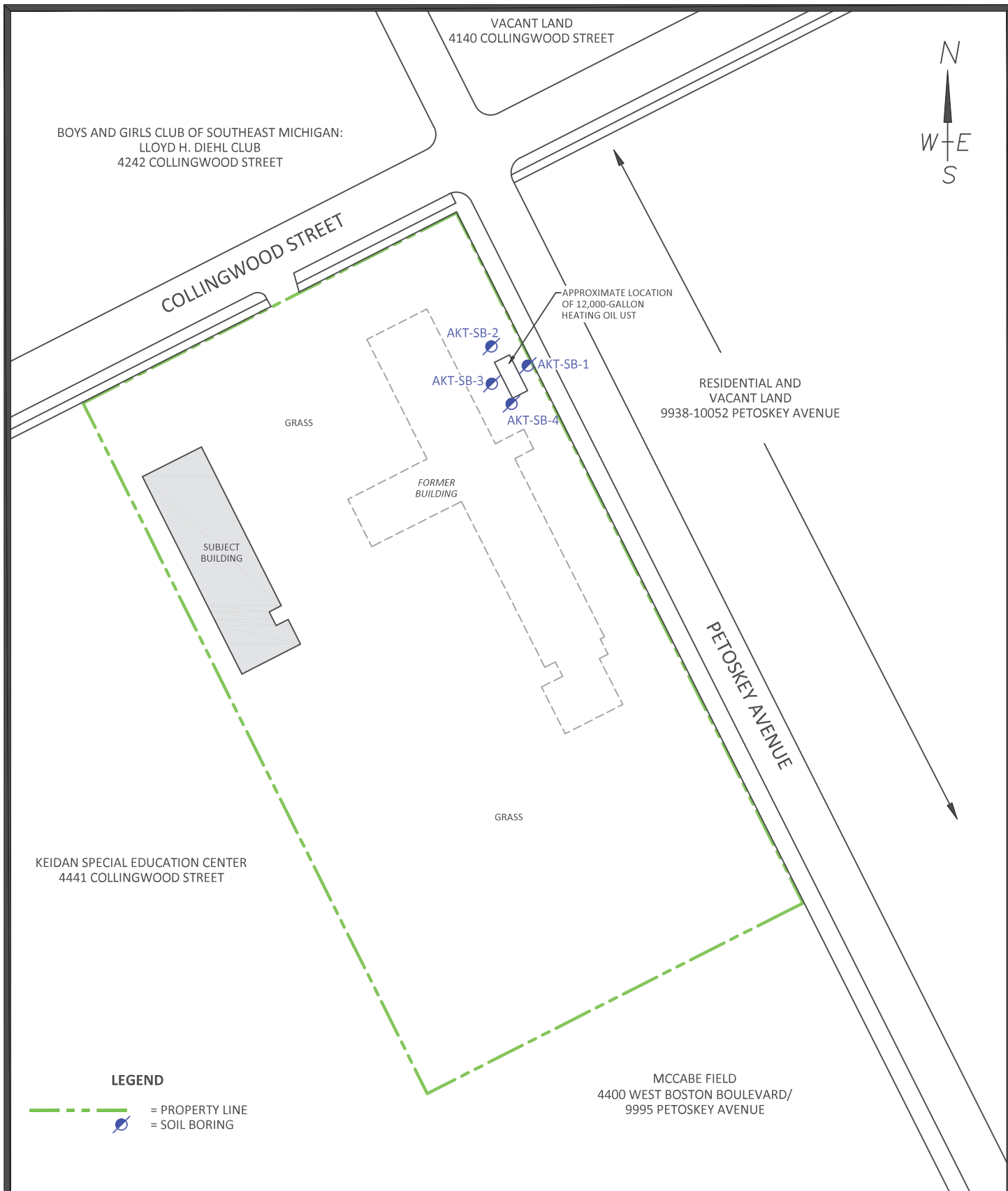
FIGURES

7.5 MINUTE SERIES (TOPOGRAPHIC)



MICHIGAN
QUADRANGLE LOCATION





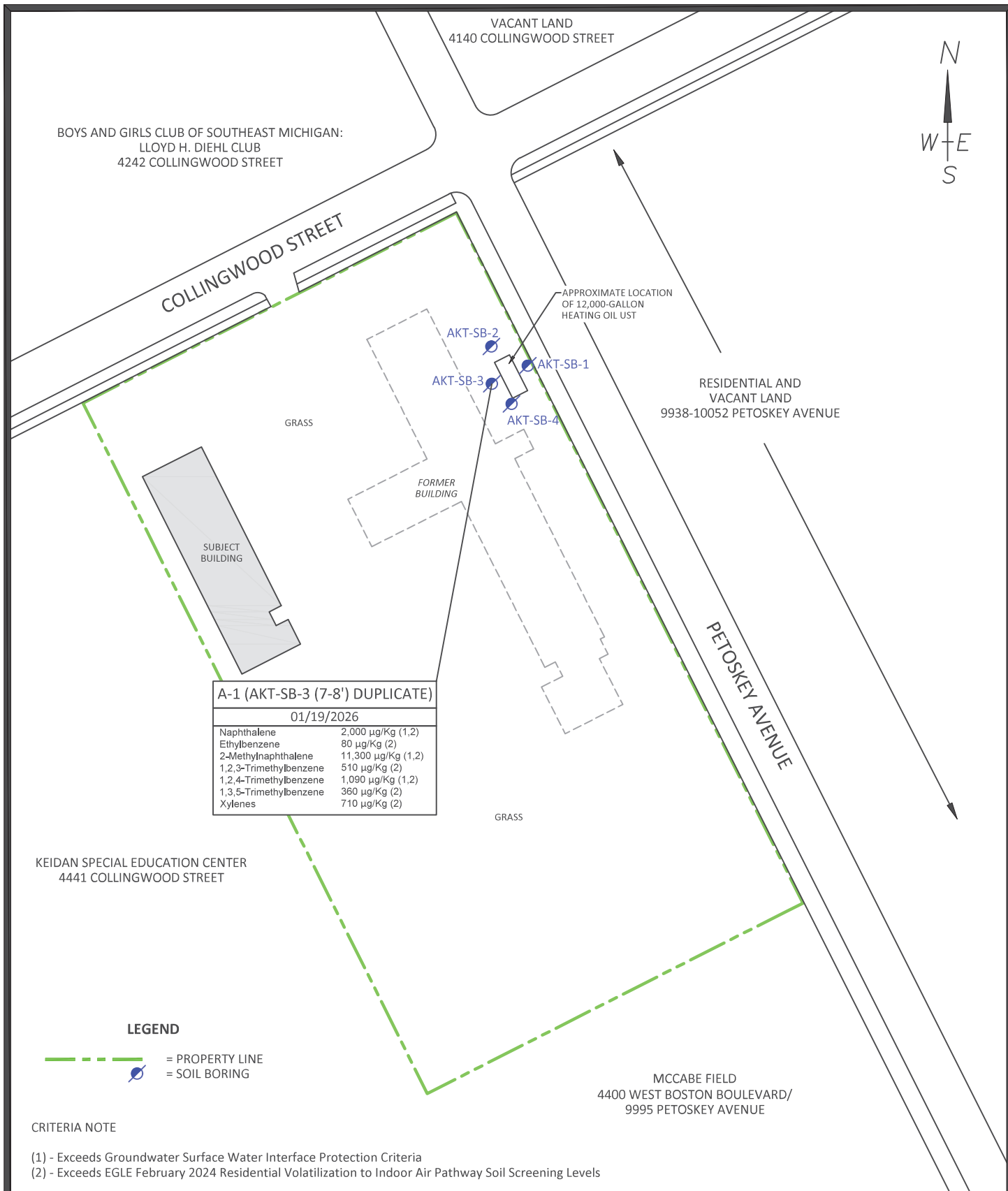
SITE MAP WITH SOIL BORING LOCATIONS

10001 PETOSKEY AVENUE
DETROIT, MICHIGAN
PROJECT NUMBER: 20643F2-1-20

DRAWN BY: OGO
DATE: 02/24/2026

0 40 80
SCALE: 1" = 80'

FIGURE 2



SITE MAP WITH SOIL ANALYTICAL RESULTS EXCEEDING EGLE RCC

10001 PETOSKEY AVENUE
DETROIT, MICHIGAN
PROJECT NUMBER: 20643F2-1-20

DRAWN BY: OGO
DATE: 02/24/2026

0 40 80
SCALE: 1" = 80'

FIGURE 3